STATEMENT OF THE CLAIMS

1. (currently amended) An apparatus for occluding a blood vessel having an inner wall with an interior diameter, wherein the inner wall defines a lumen with a longitudinal axis, the apparatus comprising:

an insertion device; and ~~a plug;~~

~~the~~ a plug for insertion along the longitudinal axis into the lumen of the blood vessel, the plug having a tapered outer surface, a large diameter section, ~~a rearward-facing opening into~~ an interior chamber with a rear opening, a plurality of spokes, and an attachment means, said plurality of spokes, ~~that~~ extending ~~rearward~~ from said interior chamber and out said rear opening and radially outward toward the inner wall of the blood vessel, wherein~~and~~

said attachment means disposed within said interior chamber of said plug, for attaching the plug to the insertion device, the large diameter section having a cross-sectional diameter greater than the interior diameter of the lumen of the inner wall and said plug being sufficiently rigid in order to resist compressive forces applied thereto by the inner wall of the blood vessel such that the plug is gripped by compressive forces exerted by the elastic nature of the inner wall of the blood vessel and thereby occludes blood flow through the lumen of the blood vessel,; and

the insertion device having interface means that cooperates with the attachment means of the plug to attach the plug to the insertion device and means for providing an axial force to insert the plug into the blood vessel.

2. (previously presented) The apparatus as recited in claim 1 wherein the attachment means of the plug comprises a pilot hole disposed within said interior chamber.

3. (previously presented) The apparatus as recited in claim 1 wherein the plug further comprises an inner corrugated surface disposed within said interior chamber.

4. (cancelled)

5. (original) The apparatus as recited in claim 1 wherein the plug is made of silicon.

6. (previously presented) The apparatus as recited in claim 1 wherein the insertion device further comprises:

a. a needle;

b. a tubular needle guard surrounding the needle, the needle fitting into a pilot hole of the plug;

c. a spring connected to the needle to propel the needle outwards; and

d. a lever operable to compress and decompress the spring.

7. (previously presented) A plug for occluding a blood vessel having an inner wall with an interior diameter, wherein the inner wall defines a lumen, and the plug is for use with an insertion device, the plug comprising:

a tapered outer surface~~,~~ having a large diameter section~~, a rearward facing opening into~~ and defining an interior chamber with a rear opening;~~, and~~

a plurality of spokes that extend ~~rearward~~ from said interior chamber out said rear opening and radially outward toward the inner wall of the blood vessel, the large diameter section having a cross-sectional diameter greater than the interior diameter of the lumen of the inner wall and said plug being sufficiently rigid in order to resist compressive forces applied thereto by the inner wall of the blood vessel such that the plug is gripped by compressive forces exerted by the elastic nature of the inner wall of the blood vessel when inserted into the lumen of the blood vessel by an insertion device to thereby occlude blood flow through the lumen of the blood vessel; and

attachment means, disposed within said interior chamber of said plug, for attaching the plug to the insertion device.

8. (previously presented) The plug as recited in claim 7 wherein the attachment means is a pilot hole to enable the plug to be attached to the insertion device.

9. (cancelled)

10. (previously presented) The plug as recited in claim 7 further comprising an inner corrugated surface disposed within said interior chamber.

11. (cancelled)

12. (original) The plug as recited in claim 7 wherein the plug is made of silicone.

13 -14 (cancelled)

15. (previously presented) The apparatus as recited in claim 1 wherein said tapered outer surface defines at least one edge defining said rear ~~rearward facing~~ opening ~~is defined by at least one edge~~, and said plurality of spokes extend ~~through said rearward facing opening~~ radially outward at positions offset along said longitudinal axis from said at least one edge.

16. (previously presented) The apparatus as recited in claim 1 wherein said spokes extend radially outward to tips that are spaced apart in an annular fashion at a diameter greater than the cross-sectional diameter of the large diameter section.

17. (previously presented) The apparatus as recited in claim 1 wherein said spokes comprise metal.

18. (previously presented) The apparatus as recited in claim 17 wherein said metal comprises tungsten.

20. (cancelled)

21. (previously presented) The plug as recited in claim 7 wherein said tapered outer surface defines a longitudinal axis and includes at least one edge defining said rear ~~rearward facing~~ opening ~~is defined by at least one edge~~, and said plurality of spokes extend ~~through said rearward facing opening~~ radially outward at positions offset along said longitudinal axis from said at least one edge.

22. (previously presented) The plug as recited in claim 7 wherein said spokes extend radially outward to tips that are spaced apart in an annular fashion at a diameter greater than the cross-sectional diameter of the large diameter section.

23. (previously presented) The plug as recited in claim 7 wherein said spokes comprise metal.

24. (previously presented) The plug as recited in claim 23 wherein said metal comprises tungsten.

25. (new) A plug for occluding a blood vessel where the plug is for use with an insertion device, comprising:

a substantially frusto-conical, flexible, non-expanding element having an outer wall with a closed nose, an interior chamber, and a rear opening, said element being sufficiently rigid in order to resist compressive forces applied thereto by the blood vessel such that the plug is gripped by compressive forces exerted by the elastic nature of the

blood vessel when inserted into the blood vessel to thereby occlude blood flow through the lumen of the blood vessel;

a plurality of flexible metal spokes coupled to said element and extending from said interior chamber out said rear opening and in a relaxed state, radially outward and past said non-expanding element; and

a coupling element disposed within said interior chamber of said plug permitting the plug to be coupled to the insertion device.

26. (new) A plug according to claim 25, wherein:

said coupling element is integral with said flexible metal spokes.

27. (new) A plug according to claim 26, wherein:

said coupling element defines a pilot hole which receives the insertion device.

28. (new) A plug according to claim 25, wherein:

said outer wall has a maximum diameter of between 1mm and 4mm.